Docket No.: 02-41 US

IN THE CLAIMS:

1. (currently amended) A method of manufacturing a rotor for a high vacuum turbomolecular pump, comprising the steps of:

providing a workpiece being made of a material suitable for producing of said rotor;

forging said workpiece to obtain a generally cylindrical body(1,11) through an axial compression (P_1), said cylindrical body being a semi-finished part having ~~a homogeneous~~ homogeneous mechanical properties; and

~~obtaining one or more sets of radial peripheral vanes thereon~~

mechanically working said generally cylindrical body(1,11) for forming one or more set of radial peripheral vanes therein;

wherein during the axial compression (P_1) of said workpiece a radial expansion thereof is prevented.

2. (canceled)

3. (original) The method of claim 1, wherein said rotor is a bell-shaped rotor.

4. (currently amended) The method of claim 3, further comprising the steps of:

~~forging said generally cylindrical body being a cylindrical billet (1) through an axial compression (P_1), and~~

subsequently forging forming a cavity within said cylindrical body being a cylindrical billet (1) by means of a punch (12) that is forced into the billet, while preventing at the same time radial expansions of the billet through confinement in a mold.

5. (currently amended) The method of claim 4, wherein the ~~steps~~ step of forming ~~a~~ said cavity ~~comprising~~ comprises extending said cavity (13) over a part of said cylindrical billet and refining by subsequent mechanical working.

6. (currently amended) The method of claim 5, further comprising the ~~steps~~ step of forming of a central bore on a bottom of said cavity and subsequently providing a thermal

treatment for improving mechanical properties of said bell-shaped rotor.

7. (original) The method as claimed in any preceding claim, further comprising a step of processing said at least one set of radial peripheral vanes by one or more techniques selected from the group consisting of milling, turning and electric discharge machining.

8-9. (canceled)